

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A gas permeable probe for use in an optical analyzer for an exhaust gas stream flowing through a duct or chimney, the probe comprising:

- an elongate hollow structure having a length and including first and second ends and a side wall, with an optical cavity defined between said first and second ends within said side wall,

- a mounting structure at said first end and adapted for mounting said elongate hollow structure within said duct or chimney,

- a support member at said second end,

- a connecting structure connecting said mounting structure at said first end to said support member at said second end,

- an optical window at said first end permitting a beam of light originating from an optical analyzer to enter into said optical cavity to travel from said first end to said second end,

- a filter module having a filter forming a part of said side wall, said filter module being removable from said connecting structure in a direction transverse to the length of the elongate hollow structure, and

- a retroreflector provided at said second end for returning said light beam to said first end of said hollow structure and being releasably connected to said support member,

- said optical window being releasably mounted at said first end of said elongate hollow structure ~~and/or said retroreflector being releasably mounted at said second end of said elongate hollow structure~~ between said mounting structure and said filter module, there being a first heater associated with said optical window and a second heater associated with said retroreflector.

Claim 2 (original): A gas permeable probe in accordance with claim 1, wherein said retroreflector is releasably connected to said support member at a side of said support member remote from said optical window and aligned with an opening in said support member.

Claim 3 (original): A gas permeable probe in accordance with claim 2 and further comprising a releasable cover member surrounding said retroreflector.

Claim 4 (currently amended): A gas permeable probe in accordance with claim 3, ~~there being~~ including at least one threaded fastener releasably connecting said cover member to said support member.

Claim 5 (currently amended): A gas permeable probe in accordance with claim 2, said retroreflector having a front side disposed adjacent said support member and a rear side disposed remote from said support member, a releasable reaction member spaced from said support member and ~~at least~~ one spring resiliently mounting said retroreflector with respect to one of said support member and said reaction member.

Claim 6 (currently amended): A gas permeable probe in accordance with claim 5, said ~~at least~~ one spring being disposed between said releasable reaction member and said rear side of said retroreflector, said front side of said retroreflector being disposed adjacent said support member.

Claim 7 (currently amended): A gas permeable probe in accordance with claim 5, said ~~at least~~ one spring being disposed between said support member and said front side of said retroreflector, said rear side of said retroreflector being disposed adjacent said reaction member.

Claim 8 (currently amended): A gas permeable probe in accordance with claim 5, wherein said reaction member has a central recess and said ~~at least~~ one spring is disposed in said central recess.

Claim 9 (currently amended): A gas permeable probe in accordance with claim 8, wherein said ~~at least~~ one spring comprises a compression coil spring.

Claim 10 (currently amended): A gas permeable probe in accordance with claim 9, ~~wherein~~ including a movable piston ~~is disposed~~ between said compression coil spring and said rear side of said retroreflector, said piston being movably guided in said recess.

Claim 11 (currently amended): A gas permeable probe in accordance with claim 5, ~~wherein~~ including at least one threaded fastener ~~is provided~~ for connecting said reaction member to said support member.

Claim 12 (currently amended): A gas permeable probe in accordance with claim 5, wherein said reaction member ~~being~~ is rigidly connected to said support member via a spacer.

Claim 13 (currently amended): A gas permeable probe in accordance with claim 12, wherein said spacer ~~being~~ is a cylindrical spacer separate from said reaction member having first and second ends.

Claim 14 (currently amended): A gas permeable probe in accordance with claim 13, wherein said cylindrical spacer ~~being~~ is formed as an electrical heater for said retroreflector.

Claim 15 (currently amended): A gas permeable probe in accordance with claim 13, ~~wherein~~ including first and second ring seals ~~are provided~~ at said first and second ends of said spacer.

Claim 16 (original): A gas permeable probe in accordance with claim 13, wherein said first and second ends of said spacer are received in respective ring recesses in said support member and said reaction member.

Claim 17 (original): A gas permeable probe in accordance with claim 1 and further comprising a ring recess having a base and formed in said mounting structure at said first end of said elongate hollow structure, said optical window being disposed in said ring recess and being accessible when a filter forming part of said elongate hollow structure is removed.

Claim 18 (original): A gas permeable probe in accordance with claim 17, wherein said ring recess is provided in a first mounting flange of said mounting structure.

Claim 19 (currently amended): A gas permeable probe in accordance with claim 18, wherein said mounting flange has a first side adjacent and a second side remote from said elongate hollow structure, ~~and a second side remote from it~~ and ~~wherein~~ including a pressure ring ~~is provided~~ at said first side.

Claim 20 (currently amended): A gas permeable probe in accordance with claim 19, wherein said pressure ring has a ~~ring-shaped~~ ring-shaped axial projection engaging ~~into~~ said ring recess.

Claim 21 (currently amended): A gas permeable probe in accordance with claim 21, ~~wherein~~ including first and second ring seals ~~are provided~~, said first ring seal being disposed between said optical window and said base of said ring recess and said second ring seal being provided between said optical window and said axial projection of said pressure ring.

Claim 22 (currently amended): A gas permeable probe in accordance with claim 21, ~~there being~~ including a ring groove at said base of said recess and a ring groove in said axial projection, ~~with~~ said first and second ring seals each being arranged in a respective one of said ring grooves.

Claim 23 (original): A gas permeable probe in accordance with claim 19 and further comprising:

a plurality of threaded fasteners extending through said pressure ring and said mounting flange for clamping them together.

Claim 24 (currently amended): A gas permeable probe in accordance with claim 23, wherein said threaded fasteners engage ~~into~~ a ring-shaped connecting member provided at a side of said mounting flange remote from said pressure ring.

Claim 25 (currently amended): A gas permeable probe in accordance with claim 23, wherein said filter includes a connection flange disposed adjacent said first end of said elongate hollow structure and said threaded fasteners ~~also~~ pass through said connection flange.

Claim 26 (currently amended): A gas permeable probe in accordance with claim 23, wherein including a heater for said optical window is positioned adjacent to ~~it~~ said optical window.

Claim 27 (currently amended): A gas permeable probe in accordance with claim 26, wherein said threaded fasteners engage ~~into~~ a ring-shaped connecting member provided at a side of said mounting flange remote from said pressure ring, said ring-shaped connecting member having an axial projection and said heater comprising a ring-shaped heater mounted on said axial projection of said ring-shaped connecting member.

Claim 28 (currently amended): A gas permeable probe in accordance with claim 25, wherein said filter comprises an elongate modular filter forming part of said elongate hollow structure, said modular filter having first and second opposite ends and ~~includes~~ including a filter structure having at least one filter member, a bellows at one of said first and second opposite ends adjacent said filter structure, said connection flange at said first opposite end and a further connection flange at said second opposite end being adjacent said support member, said pressure ring and said optical window being removable on releasing said threaded fasteners and removing said elongate modular filter.

Claim 29 (new): A gas permeable probe for use in an optical analyzer for an exhaust gas stream flowing through a duct or chimney, the probe comprising:

- an elongate hollow structure having first and second ends and a side wall, with an optical cavity defined between said first and second ends within said side wall,
- a mounting structure at said first end and adapted for mounting said elongate hollow structure within said duct or chimney,
- a support member at said second end,
- a connecting structure connecting said mounting structure at said first end to said support member at said second end,
- an optical window at said first end permitting a beam of light originating from an optical analyzer to enter into said optical cavity to travel from said first end to said second end,

- a filter module defining a part of said side wall, said filter module comprising a connection flange for connection to said mounting structure, a flexible metallic bellows, a filter tube member and a connection flange for mounting said filter tube member to said support member, said filter module being removable sideways from and relative to said connecting structure, and

- a retroreflector provided at said second end for returning said light beam to said first end of said hollow structure and being releasably connected to said support member at a side of said support member remote from said support member, said support member having an opening and said retroreflector being aligned with said opening,

- said optical window being releasably mounted at said first end of said elongate hollow structure between said mounting structure and said filter module, there being a first heater associated with said optical window and a second heater associated with said retroreflector.

Claim 30 (new): A gas permeable probe in accordance with claim 29, said filter member having first and second ends and said filter module further including a filter mounting tube disposed at and connected to said first end of said filter member and a filter support tube disposed at said second end of said filter member and connected to said connecting flange for mounting said filter module to said support member.

Claim 31 (new): A gas permeable probe in accordance with claim 30, said bellows having first and second ends, said first end of said bellows being connected to said connection flange for connection to said mounting structure and said second end of said bellows being connected to said filter mounting tube.

Claim 32 (new): A gas permeable probe in accordance with claim 31, there being a sleeve located within said bellows and connected at one end to said connecting flange for connecting said filter module to said mounting structure.

Claim 33 (new): A gas permeable probe in accordance with claim 29, said optical window being disposed between said mounting structure and a pressure ring disposed adjacent said connecting flange for connecting said filter module to said mounting structure.

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PATENT

Amendments to the Drawings:

Attached is a copy of drawing Fig. 1B in which reference numerals 83, 85, 87 and 89 were added to aid in reading the specification together with the drawings. It is requested that the attached drawing be substituted for Fig. 1B as originally filed. Also attached hereto is a marked-up copy of the proposed drawing revisions.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes